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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,283	12/22/2000	Stefan Parkvall	2380-289	8178

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EXAMINER

SEFCHECK, GREGORY B

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/742,283	Applicant(s) PARKVALL ET AL.	
	Examiner Gregory B Sefcheck	Art Unit 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on ____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-50 is/are pending in the application.

 4a) Of the above claim(s) ____ is/are withdrawn from consideration.

5) ☐ Claim(s) ____ is/are allowed.

6) ☒ Claim(s) 1-50 is/are rejected.

7) ☐ Claim(s) ____ is/are objected to.

8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 22 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

 a) ☐ All b) ☐ Some * c) ☐ None of:

 1. ☐ Certified copies of the priority documents have been received.

 2. ☐ Certified copies of the priority documents have been received in Application No. ____.

 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>4</u> .	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____.
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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 10, 11, 14, 16, 26-28, 31, 34, 35, 38, 39, and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Labonte et al. (US005991286A), hereafter Labonte.

- In regards to Claims 1-4, 10, 11, 14, 16, 26-28, 31, 34, 35, 38, 39, and 41,

Labonte discloses a method and cellular system for communicating data packets between a base station and a mobile user over uplink and downlink channels (Figs. 1A-C; claim 1/14/26/38/39 – method and units in mobile radio system where data packets are communicated from first node to second node/between one or more base stations and wireless user units over first channel and feedback signal is sent from second node to first node over a second channel).

Referring to Fig. 3, Labonte shows a signal quality measurement is made of both the uplink and downlink channels at the base station and/or mobile station (Col. 7, lines 32-45; claim 1/14/26/39 – first node detector determines condition/signal quality of second channel/uplink; claim 3/16/28/41 – first node detector to determine

condition/signal quality of first channel/downlink; claim 10/11/34/35 – first node is a base station/wireless unit in a radio communications network and second is a wireless unit/base station; claim 10/11/34/35 – first channel is a downlink/uplink and the second channel is an uplink/downlink).

A determination is made as to whether the signal quality uplink and downlink is sufficient for packet data communications (Col. 7, lines 50-53; claim 1/2/4/14/26/27/39 – first node controller/scheduler schedules transmission over first channel/downlink based on determined condition of second channel/uplink; claim 3/16/28/41 – first node controls/schedules transmission over first channel/downlink based on determined conditions of first/downlink and second/uplink channels).

3. Claims 1-5, 10-14, 16, 23-28, 31, 32, 34-39, 41, and 48-50 are rejected under 35 U.S.C. 102(e) as being anticipated by Garceran et al. (US006522888B1), hereafter Garceran.

- In regards to Claims 1-4, 10-12, 14, 16, 26-28, 31, 34-36, 38, 39, and 41,

Garceran discloses a method in a wireless radio communication system for communicating data from system controllers and base stations to mobile user over forward- and reverse-link channels (Abstract; claim 1/14/26/38/39 – method and units in mobile radio system where data packets are communicated from first node to second

node/between one or more base stations and wireless user units over first channel and feedback signal is sent from second node to first node over a second channel; claim 12/36 – first node is a radio network controller coupled to one or more base stations in a radio network and second node is a wireless user unit).

Garceran shows that the base station could receive and/or determine signal quality measurements of a forward link and/or of a reverse link at a particular location (Abstract; claim 1/14/26/39 – first node detector determines condition/signal quality of second channel/uplink; claim 3/16/28/41 – first node detector to determine condition/signal quality of first channel/downlink; claim 10/11/34/35 – first node is a base station/wireless unit in a radio communications network and second is a wireless unit/base station; claim 10/11/34/35 – first channel is a downlink/uplink and the second channel is an uplink/downlink).

Garceran discloses that the communication between the base station and mobile station is controlled based upon the determined signal quality measurements of the forward- and reverse-link channels (Col. 2, lines 28-34; Col. 3, lines 32-45; claim 1/2/4/14/26/27/31/39 – first node controller/scheduler schedules transmission over first channel/downlink based on whether determined condition of second channel/uplink is sufficient; claim 3/16/28/41 – first node controls/schedules transmission over first channel/downlink based on determined conditions of first/downlink and second/uplink channels).

- In regards to Claims 5 and 32,

Garceran discloses a method in a wireless radio communication system for communicating data from base stations to mobile users over forward- and reverse-link channels that covers all limitations of the parent claims.

Garceran shows the signal quality on the forward- and reverse-link channels can be determined based on error rates meeting thresholds (Col. 3, lines 15-67; claim 5/32 – the sufficiency of the second channel is determined so that a probability of error in the received feedback signal is below an error threshold).

- In regards to Claims 13, 23-25, 37, and 48-50,

Garceran discloses a method in a wireless radio communication system for communicating data from base stations to mobile users over forward- and reverse-link channels that covers all limitations of the parent claims.

Garceran shows that transmission control from base station to mobile unit may be controlled based upon conditions other than uplink signal quality, including traffic load at the serving base station and the propagation environment (frequency and speed; Doppler frequency; Col. 3, lines 15-25, 32-45, 50-61; claim 13/23/37/48 – controlling transmission over first channel/downlink without regard to the condition/signal quality of the second channel/uplink when another condition is detected; claim 24/49 – detected condition is when a Doppler frequency of the uplink exceeds a threshold; claim 25/50 – detected condition is when a load of a cell corresponding to the base stations is less than a threshold).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-9, 15, 17-22, 29, 30, 33, 40, and 42-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garceran in view of Neumiller et al. (US006226283B1), hereafter Neumiller.

- In regards to Claims 6, 17-19, 33, and 42-44,

Garceran discloses a method in a wireless radio communication system for communicating data from base stations to mobile users over forward- and reverse-link channels that covers all limitations of the parent claims.

Garceran does not explicitly show employing the ARQ protocol by the base station to provide reliable communications with the wireless user, where the ARQ feedback is an acknowledge, negative acknowledge or lost signal determined to be sufficient when the probability of reception error is below an error threshold.

Neumiller discloses a method of performing selection in a communications system (Title). Neumiller discloses communication from base stations to remote units based upon whether quality indicators adhere to configurable thresholds on the link

from the remote units to the base stations. Furthermore, the quality indicators may include forward error correction utilizing the ARQ protocol, employing acknowledge or negative acknowledge feedback signals (Col. 3, lines 1-18; Col. 3-4, lines 65-7; claim 17/42 – base station employs ARQ protocol to provide reliable communications with wireless user; claim 17/42 – first node determines whether condition/signal quality of second channel/uplink is sufficient for the first node/base station to accurately receive ARQ feedback signal from second node/wireless user; claim 18/43 – the sufficiency of the second channel is determined so that a probability of error in the received ARQ feedback signal is below an error threshold; claim 6/19/33/44 – feedback signal is an acknowledge signal, a negative acknowledge signal or a lost signal corresponding to a data packet transmitted over the first channel).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system of Garceran by using the known ARQ protocol for determining the sufficiency of the feedback/uplink signal quality from remote units through an acknowledge, negative acknowledge or lost signal in order to ensure downlink transmission to the remote units, as shown by Neumiller. This modification provides a known protocol for implementing feedback to ensure reliable communications between base stations and remote units in a wireless communications system.

- In regards to Claims 7, 9, 20-22, 29, and 45-47,

Garceran discloses a method in a wireless radio communication system for communicating data from base stations to mobile users over forward- and reverse-link channels that covers all limitations of the parent claims.

Garceran does not explicitly show delaying data transmission over the downlink until the uplink signal quality is sufficient or for a preset period of time, where the wireless user is communicating with two base stations in soft handover.

Neumiller shows that the base station is equipped to delay transmission of frames for an amount of time (Col. 5, lines 22-23; claim 9/21/46 – transmitting data packets after a preset delay period) so that frames from base stations in soft handoff with the remote unit are received for determining the best quality indicator (Col. 5, lines 16-28; claim 7/20/29/45 – first node scheduler delaying transmission over first channel/downlink until quality of second channel/uplink exceeds predetermined threshold; claim 22/47 – wireless user is communicating with two base stations in a soft handover).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Garceran by delaying transmission over the downlink until the uplink signal quality is sufficient or for a preset time period when the wireless user is communicating with two base stations in soft handover, as shown by Neumiller. This implementation would ensure continuous downlink communication while a remote unit is involved in soft handover with two base stations, enabling seamless mobile coverage over the entire coverage area of a multiple base station system.

- In regards to Claims 8, 15, 30, and 40,

Garceran v. Neumiller discloses a method in a wireless radio communication system for communicating data from base stations to mobile users over forward- and reverse-link channels that covers all limitations of the parent claims.

Garceran discloses transmission over a downlink that is dependent on uplink signal quality measurements such as signal and interference levels, meeting configurable thresholds (Col. 3, lines 15-67; Col. 5, lines 15-32; claim 8/15/30/40 – predetermined threshold is a signal-to-interference ratio).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Sayers et al. (US006687243B1) discloses a method and apparatus for integrated wireless communications in private and public network environments
- Rauscher (US006633762B1) discloses a smart mobile assisted handoff (MAHO) method that disables MAHO
- Mohebbi (US006603971B1) discloses soft hand-off in cellular mobile communications networks

- Ekstrom et al. (US006526291B1) discloses a method and system for radio transmission
- Kalliokulju et al. (US006385451B1) discloses handover between mobile communications networks
- Dohi et al. (US006341224B1) discloses a power controller for mobile communication system wherein a signal to interference threshold is dynamically moved based on an error rate measurement
- Olofsson et al. (US006167031A) discloses a method for selecting a combination of modulation and channel coding schemes in a digital communication system
- Sundelin et al. (US006144861A) discloses downlink power control in a cellular mobile radio communications system
- Neumiller et al. (US006072790A) discloses a method and apparatus for performing distribution in a communication system
- Matsuki et al. (US005715257A) discloses a system for re-transmission in data communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B Sefcheck whose telephone number is 703-305-0633. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GBS
5-26-2004



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